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Learning to De-Adopt Ineffective Healthcare Practices

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With rapidly rising healthcare costs constraining US wages and forcing difficult policy decisions, there is increasing pressure to identify means to decrease spending. One attractive target is the de-adoption of medical practices found to be ineffective or harmful. Just as emerging scientific evidence can support novel practices that improve health, it can also reverse beliefs regarding current practices by demonstrating that they are not as effective as believed.¹ Notable examples include randomized trials showing that hormonal therapy in post-menopausal women does not prevent cardiovascular disease and that magnetic resonance imaging in nonspecific, acute low-back pain increases surgical interventions without improving patient outcomes. In these cases, well-performed trials contradicted widespread clinical practice based on observational data, expert opinion, and anecdotal experience. Although trials occasionally identify harmful interventions, more often tests and procedures are found to provide little to no therapeutic benefit and are thus unnecessary.

In the current healthcare environment in which healthcare costs are increasing rapidly without clear benefits, stopping ineffective care can serve as low-hanging fruit for important and effective cost-savings. The Choosing Wisely initiative, which has spread quickly across the United States and around the world, attempts to reorient physicians and patients to recognize and avoid low-value interventions, thus improving care while decreasing costs.² However, early results show Choosing Wisely has not been as successful as initially hoped.³ This may be, in part, due to the complex nature of human behavior change and cognitive biases, making it even harder to give up bad habits than to adopt new ones.⁴ The field of implementation science has only recently begun to focus on de-adoption. Early work in this field suggests that de-adoption efforts should be guided by behavior change theory to maximize the likelihood of success.

In this issue of *The American Journal of Medicine*, Gupta and colleagues⁵ report on their experience in decreasing hospital-based use of fecal occult blood testing. Annual fecal occult blood testing is highly effective for population-based screening of average-risk, asymptomatic adults for colorectal cancer in the outpatient setting. However, it does not

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have high enough sensitivity for a negative result to rule out acute gastrointestinal pathology in the hospital setting. Further, fecal occult blood testing was designed to be performed on spontaneously passed stool, not after a digital rectal examination. Use of fecal occult blood testing for hospitalized patients with concern for acute gastrointestinal bleeding presents a clear case of a low-value test, which is far more likely to give misleading results than to be helpful.

Gupta et al⁵ began their de-adoption efforts to reduce the use of hospital-based fecal occult blood testing by gathering information and providing feedback to ordering physicians. However, this implementation intervention achieved only modest results. Realizing that they had identified a scenario in which a test could actually be entirely eliminated as an orderable test, they switched from a bottom-up to a top-down approach. They established consensus among local experts and hospital leadership to focus on potential down-stream harms from the test. With this second implementation intervention, de-adoption was nearly complete.

What can we learn from this experience and similar reports from the literature? First, there is an emerging science of de-adoption.⁶ The field is currently hampered by a lack of consensus regarding terminology (a systematic review identified 43 unique terms referring to de-adoption¹). Second, just as implementation science has produced generalizable, theory-based evidence to guide efforts to more rapidly close evidence-implementation gaps, we should learn from the experience of others in de-adoption. Third, the focus on patient harm, appealing to ingrained instincts of nonmaleficence, rather than lack of efficacy, is a common approach. Carefully gathering supporting evidence and tracking change are equally important. Finally, education alone was not likely to eliminate fecal occult blood testing use because diffusion of the information had already reached most of the physician population, yet the “laggards” (late adopters in Diffusion of Innovation Theory parlance) were still performing fecal occult blood testing.⁷ A more proactive approach was needed to interrupt physician behaviors that had become routine over countless years of clinical practice, as is frequently the case in trials focusing on de-adoption.¹

Although the approach outlined by Gupta et al⁵ is not appropriate for every de-adoption effort, it does provide a framework on which some efforts can be based. At a minimum, many other health systems can replicate their push to eliminate hospital-based fecal occult blood testing through engagement of stakeholders and opinion leaders followed by targeted changes in the ability to order an ineffective test. The de-adoption of hospital-based fecal occult blood testing has the potential to realize significant healthcare financial savings, likely without any patient objection.

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